

CLAIMS

1. A phenol resin obtained by reacting phenolic compounds with formaldehyde and/or formaldehyde-forming compounds, characterized in that
5 the phenol resin has a polydispersity of maximally 1.85 and a weight average molecular weight (M_w) of maximally 600.
2. A phenol resin according to claim 1, characterized in that said phenol resin has a polydispersity of maximally 1.7.
3. A phenol resin according to claim 1, characterized in that
10 said weight average molecular weight (M_w) is maximally 520.
4. A phenol resin according to any one or more of the preceding claims, characterized in that the weight percentage of phenol in the phenolic compounds is maximally 95%.
5. A phenol resin according to any one or more of the
15 preceding claims, characterized in that the weight percentage of phenol in the phenolic compounds ranges between 25 and 75%.
6. A phenol resin according to any one or more of the preceding claims, characterized in that the phenolic compounds comprise bisphenols and polyphenols.
- 20 7. A phenol resin according to any one of the claims 1-5, characterized in that said the phenolic compounds comprise low-molecular novolacs.
8. A phenol resin according to claim 6, characterized in that said bisphenols and polyphenols have been obtained in the preparation of
25 p,p-bisphenol A.
9. A phenol resin according to any one or more of the preceding claims, characterized in that the conversion of volatile resin forming components is at least 75%.
10. A phenol resin according to any one or more of the
30 preceding claims, characterized in that the conversion of volatile resin forming components is at least 90%.

11. A phenol resin according to any one or more of the preceding claims, characterized in that the phenol resin furthermore comprises one or more components selected from the group consisting of fire retardants, plasticisers, fillers, colorants and binders.

5 12. Use of the phenol resin according to any one or more of the claims 1 - 11 for forming moulded products obtained by impregnating solid inert parts, in particular impregnation paper, with the phenol resin and subsequently subjecting the obtained assembly to a pressing operation so as to form moulded products, using an elevated temperature and an
10 elevated pressure.

13. Use according to claim 12, characterized in that an impregnation paper having a weight of at least 160 g/m² is used as the solid inert part.

14. Use according to any one or more of the claims 12-13, characterized in that an impregnation paper having a weight ranging
15 between 250 and 400 g/m² is used as the inert part.

15. Use according to claims 12-14, characterized in that at least one surface of the assembly is provided with a decorative layer prior to or after said pressing operation.

20 16. Use according to any one or more of the claims 12-15, characterized in that a stationary press is used for pressing the moulded products.

17. Use according to any one or more of the claims 12-15, characterized in that a continuous press is used for pressing the moulded
25 products.

18. A moulded product having a core of solid inert parts impregnated with the phenol resin according to any one or more of the claims 1-11.

19. A moulded product according to claim 18, characterized in
30 that the thickness of the moulded product ranges between 0.2 and 50 mm.

20. A moulded product according to claim 18, characterized in

that the thickness of the moulded product ranges between 0.5 and 20 mm.

21. Use of a moulded product according to any one or more of the claims 18-20 for outdoor applications.

22. Use according to claim 21, characterized in that said
5 moulded product is used for cladding buildings.

23. Use of a moulded product according to any one or more of the claims 18-20 for indoor applications.

24. Use according to claim 23, characterized in that said
10 moulded product is used for furniture, tabletops, clothes storage compartments and for construction purposes in wet spaces.